Release notes for ENDF/B Development n-024_Cr_052 evaluation

April 26, 2017

- `checkr` Warnings:

  1. A previous error halted parsing of the current section
     MAT=2431, MF= 1, MT=451 (1): Parsing stopped

     ```
     ERROR(S) FOUND IN MAT=2431, MF= 1, MT=451
        SECTION CANNOT BE CHECKED FROM SEQUENCE NUMBER      556 TO     643
     ```

- `checkr` Errors:

  1. A variable is outside the allowed ENDF range
     MAT=2431, MF= 1, MT=451 (0): Variable range

     ```
     ERROR(S) FOUND IN MAT=2431, MF= 1, MT=451
        MOD =     4 OUT OF RANGE     0 -     0           RECORD NUMBER     556
     ```

  2. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=2431, MF= 2, MT=151 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=2431, MF= 2, MT=151
        SECTION  2/151 NOT IN DIRECTORY                 RECORD NUMBER     645
     ```

  3. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=2431, MF= 3, MT= 1 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=2431, MF= 3, MT=  1
        SECTION  3/  1 NOT IN DIRECTORY                 RECORD NUMBER    1046
     ```

  4. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=2431, MF= 3, MT= 2 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=2431, MF= 3, MT=  2
        SECTION  3/  2 NOT IN DIRECTORY                 RECORD NUMBER    1797
     ```

  5. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=2431, MF= 3, MT= 3 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=2431, MF= 3, MT=  3
        SECTION  3/  3 NOT IN DIRECTORY                 RECORD NUMBER    2547
     ```

  6. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=2431, MF= 3, MT= 4 (0): Directory (b)

     ```
     ERROR(S) FOUND IN MAT=2431, MF= 3, MT=  4
        SECTION  3/  4 NOT IN DIRECTORY                 RECORD NUMBER    2623
     ```

  7. Missing a section in directory so your directory is messed up. This error will break everything else
     MAT=2431, MF= 3, MT= 5 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 3, MT=  5
   SECTION  3/  5 NOT IN DIRECTORY                  RECORD NUMBER    2641
```

8. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=2431, MF= 3, MT= 16 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 3, MT= 16
   SECTION  3/ 16 NOT IN DIRECTORY                  RECORD NUMBER    2697
```

9. Missing a section in directory so your directory is messed up. This error will break everything else
   MAT=2431, MF= 3, MT= 22 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 3, MT= 22
   SECTION  3/ 22 NOT IN DIRECTORY                  RECORD NUMBER    2706
```

10. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2431, MF= 3, MT= 28 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 3, MT= 28
   SECTION  3/ 28 NOT IN DIRECTORY                  RECORD NUMBER    2713
```

11. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2431, MF= 3, MT= 51 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 3, MT= 51
   SECTION  3/ 51 NOT IN DIRECTORY                  RECORD NUMBER    2720
```

12. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2431, MF= 3, MT= 52 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 3, MT= 52
   SECTION  3/ 52 NOT IN DIRECTORY                  RECORD NUMBER    2735
```

13. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2431, MF= 3, MT= 53 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 3, MT= 53
   SECTION  3/ 53 NOT IN DIRECTORY                  RECORD NUMBER    2748
```

14. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2431, MF= 3, MT= 54 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 3, MT= 54
   SECTION  3/ 54 NOT IN DIRECTORY                  RECORD NUMBER    2761
```

15. Missing a section in directory so your directory is messed up. This error will break everything else
    MAT=2431, MF= 3, MT= 55 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 3, MT= 55
   SECTION  3/ 55 NOT IN DIRECTORY                  RECORD NUMBER    2774
```

16. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF= 3, MT= 56 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 3, MT= 56
   SECTION  3/ 56 NOT IN DIRECTORY                  RECORD NUMBER    2786
```

17. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF= 3, MT= 57 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 3, MT= 57
   SECTION  3/ 57 NOT IN DIRECTORY                  RECORD NUMBER    2798
```

18. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF= 3, MT= 58 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 3, MT= 58
   SECTION  3/ 58 NOT IN DIRECTORY                  RECORD NUMBER    2810
```

19. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF= 3, MT= 59 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 3, MT= 59
   SECTION  3/ 59 NOT IN DIRECTORY                  RECORD NUMBER    2822
```

20. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF= 3, MT= 60 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 3, MT= 60
   SECTION  3/ 60 NOT IN DIRECTORY                  RECORD NUMBER    2834
```

21. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF= 3, MT= 91 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 3, MT= 91
   SECTION  3/ 91 NOT IN DIRECTORY                  RECORD NUMBER    2846
```

22. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF= 3, MT=102 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 3, MT=102
   SECTION  3/102 NOT IN DIRECTORY                  RECORD NUMBER    2858
```

23. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF= 3, MT=103 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 3, MT=103
   SECTION  3/103 NOT IN DIRECTORY                  RECORD NUMBER    2869
```

24. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF= 3, MT=107 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 3, MT=107
   SECTION  3/107 NOT IN DIRECTORY                  RECORD NUMBER    2881
```

25. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF= 4, MT= 2 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 4, MT=  2
   SECTION  4/  2 NOT IN DIRECTORY                  RECORD NUMBER    2894
```

26. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF= 6, MT= 5 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 6, MT=  5
   SECTION  6/  5 NOT IN DIRECTORY                  RECORD NUMBER    7144
```

27. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF= 6, MT= 16 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 6, MT= 16
   SECTION  6/ 16 NOT IN DIRECTORY                  RECORD NUMBER   19786
```

28. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF= 6, MT= 22 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 6, MT= 22
   SECTION  6/ 22 NOT IN DIRECTORY                  RECORD NUMBER   20049
```

29. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF= 6, MT= 28 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 6, MT= 28
   SECTION  6/ 28 NOT IN DIRECTORY                  RECORD NUMBER   20326
```

30. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF= 6, MT= 51 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 6, MT= 51
   SECTION  6/ 51 NOT IN DIRECTORY                  RECORD NUMBER   20662
```

31. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF= 6, MT= 52 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 6, MT= 52
   SECTION  6/ 52 NOT IN DIRECTORY                 RECORD NUMBER   20710
```

32. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF= 6, MT= 53 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 6, MT= 53
   SECTION  6/ 53 NOT IN DIRECTORY                 RECORD NUMBER   20755
```

33. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF= 6, MT= 54 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 6, MT= 54
   SECTION  6/ 54 NOT IN DIRECTORY                 RECORD NUMBER   20763
```

34. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF= 6, MT= 55 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 6, MT= 55
   SECTION  6/ 55 NOT IN DIRECTORY                 RECORD NUMBER   20805
```

35. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF= 6, MT= 56 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 6, MT= 56
   SECTION  6/ 56 NOT IN DIRECTORY                 RECORD NUMBER   20847
```

36. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF= 6, MT= 57 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 6, MT= 57
   SECTION  6/ 57 NOT IN DIRECTORY                 RECORD NUMBER   20889
```

37. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF= 6, MT= 58 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 6, MT= 58
   SECTION  6/ 58 NOT IN DIRECTORY                 RECORD NUMBER   20934
```

38. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF= 6, MT= 59 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 6, MT= 59
   SECTION  6/ 59 NOT IN DIRECTORY                 RECORD NUMBER   20942
```

39. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF= 6, MT= 60 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 6, MT= 60
   SECTION  6/ 60 NOT IN DIRECTORY                  RECORD NUMBER   20950
```

40. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF= 6, MT= 91 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 6, MT= 91
   SECTION  6/ 91 NOT IN DIRECTORY                  RECORD NUMBER   20958
```

41. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF= 6, MT=103 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 6, MT=103
   SECTION  6/103 NOT IN DIRECTORY                  RECORD NUMBER   22161
```

42. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF= 6, MT=107 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF= 6, MT=107
   SECTION  6/107 NOT IN DIRECTORY                  RECORD NUMBER   22846
```

43. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=12, MT= 51 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=12, MT= 51
   SECTION 12/ 51 NOT IN DIRECTORY                  RECORD NUMBER   23640
```

44. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=12, MT= 52 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=12, MT= 52
   SECTION 12/ 52 NOT IN DIRECTORY                  RECORD NUMBER   23644
```

45. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=12, MT= 53 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=12, MT= 53
   SECTION 12/ 53 NOT IN DIRECTORY                  RECORD NUMBER   23648
```

46. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=12, MT= 54 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=12, MT= 54
   SECTION 12/ 54 NOT IN DIRECTORY                  RECORD NUMBER   23652
```

47. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=12, MT= 55 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=12, MT= 55
   SECTION 12/ 55 NOT IN DIRECTORY                  RECORD NUMBER   23656
```

48. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=12, MT= 56 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=12, MT= 56
   SECTION 12/ 56 NOT IN DIRECTORY                  RECORD NUMBER   23660
```

49. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=12, MT= 57 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=12, MT= 57
   SECTION 12/ 57 NOT IN DIRECTORY                  RECORD NUMBER   23664
```

50. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=12, MT= 58 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=12, MT= 58
   SECTION 12/ 58 NOT IN DIRECTORY                  RECORD NUMBER   23668
```

51. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=12, MT= 59 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=12, MT= 59
   SECTION 12/ 59 NOT IN DIRECTORY                  RECORD NUMBER   23672
```

52. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=12, MT= 60 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=12, MT= 60
   SECTION 12/ 60 NOT IN DIRECTORY                  RECORD NUMBER   23676
```

53. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=12, MT=102 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=12, MT=102
   SECTION 12/102 NOT IN DIRECTORY                  RECORD NUMBER   23681
```

54. Missing a gamma spectrum for continuum of gammas
MAT=2431, MF=12, MT=102 (1): No gamma spectrum

```
ERROR(S) FOUND IN MAT=2431, MF=12, MT=102
   CONTINUUM PHOTONS REQUIRE A SECTION IN MF=15
```

55. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=14, MT= 51 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=14, MT= 51
   SECTION 14/ 51 NOT IN DIRECTORY                  RECORD NUMBER   23740
```

56. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=14, MT= 52 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=14, MT= 52
   SECTION 14/ 52 NOT IN DIRECTORY                  RECORD NUMBER   23742
```

57. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=14, MT= 53 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=14, MT= 53
   SECTION 14/ 53 NOT IN DIRECTORY                  RECORD NUMBER   23744
```

58. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=14, MT= 54 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=14, MT= 54
   SECTION 14/ 54 NOT IN DIRECTORY                  RECORD NUMBER   23746
```

59. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=14, MT= 55 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=14, MT= 55
   SECTION 14/ 55 NOT IN DIRECTORY                  RECORD NUMBER   23748
```

60. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=14, MT= 56 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=14, MT= 56
   SECTION 14/ 56 NOT IN DIRECTORY                  RECORD NUMBER   23750
```

61. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=14, MT= 57 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=14, MT= 57
   SECTION 14/ 57 NOT IN DIRECTORY                  RECORD NUMBER   23752
```

62. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=14, MT= 58 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=14, MT= 58
   SECTION 14/ 58 NOT IN DIRECTORY                  RECORD NUMBER   23754
```

63. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=14, MT= 59 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=14, MT= 59
   SECTION 14/ 59 NOT IN DIRECTORY                  RECORD NUMBER   23756
```

64. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=14, MT= 60 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=14, MT= 60
   SECTION 14/ 60 NOT IN DIRECTORY                  RECORD NUMBER   23758
```

65. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=14, MT=102 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=14, MT=102
   SECTION 14/102 NOT IN DIRECTORY                  RECORD NUMBER   23760
```

66. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=15, MT=102 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=15, MT=102
   SECTION 15/102 NOT IN DIRECTORY                  RECORD NUMBER   23763
```

67. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=32, MT=151 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=32, MT=151
   SECTION 32/151 NOT IN DIRECTORY                  RECORD NUMBER   23991
```

68. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=33, MT= 1 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=33, MT=  1
   SECTION 33/  1 NOT IN DIRECTORY                  RECORD NUMBER  139737
```

69. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=33, MT= 2 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=33, MT=  2
   SECTION 33/  2 NOT IN DIRECTORY                  RECORD NUMBER  139780
```

70. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=33, MT= 3 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=33, MT=  3
   SECTION 33/  3 NOT IN DIRECTORY                  RECORD NUMBER  139806
```

71. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=33, MT= 4 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=33, MT=  4
   SECTION 33/  4 NOT IN DIRECTORY                  RECORD NUMBER  139813
```

72. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=33, MT= 16 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=33, MT= 16
   SECTION 33/ 16 NOT IN DIRECTORY                  RECORD NUMBER  139823
```

73. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=33, MT= 22 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=33, MT= 22
   SECTION 33/ 22 NOT IN DIRECTORY                  RECORD NUMBER  139832
```

74. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=33, MT= 28 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=33, MT= 28
   SECTION 33/ 28 NOT IN DIRECTORY                  RECORD NUMBER  139849
```

75. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=33, MT= 51 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=33, MT= 51
   SECTION 33/ 51 NOT IN DIRECTORY                  RECORD NUMBER  139864
```

76. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=33, MT= 52 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=33, MT= 52
   SECTION 33/ 52 NOT IN DIRECTORY                  RECORD NUMBER  139879
```

77. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=33, MT= 53 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=33, MT= 53
   SECTION 33/ 53 NOT IN DIRECTORY                  RECORD NUMBER  139894
```

78. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=33, MT= 54 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=33, MT= 54
   SECTION 33/ 54 NOT IN DIRECTORY                  RECORD NUMBER  139909
```

79. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=33, MT= 55 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=33, MT= 55
   SECTION 33/ 55 NOT IN DIRECTORY                  RECORD NUMBER  139924
```

80. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=33, MT= 56 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=33, MT= 56
   SECTION 33/ 56 NOT IN DIRECTORY                  RECORD NUMBER  139939
```

81. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=33, MT= 57 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=33, MT= 57
   SECTION 33/ 57 NOT IN DIRECTORY                  RECORD NUMBER  139954
```

82. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=33, MT= 58 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=33, MT= 58
   SECTION 33/ 58 NOT IN DIRECTORY                  RECORD NUMBER  139969
```

83. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=33, MT= 59 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=33, MT= 59
   SECTION 33/ 59 NOT IN DIRECTORY                  RECORD NUMBER  139984
```

84. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=33, MT= 60 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=33, MT= 60
   SECTION 33/ 60 NOT IN DIRECTORY                  RECORD NUMBER  139999
```

85. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=33, MT= 91 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=33, MT= 91
   SECTION 33/ 91 NOT IN DIRECTORY                  RECORD NUMBER  140014
```

86. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=33, MT=102 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=33, MT=102
   SECTION 33/102 NOT IN DIRECTORY                  RECORD NUMBER  140027
```

87. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=33, MT=103 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=33, MT=103
   SECTION 33/103 NOT IN DIRECTORY                  RECORD NUMBER  140055
```

88. Missing a section in directory so your directory is messed up. This error will break everything else
MAT=2431, MF=33, MT=107 (0): Directory (b)

```
ERROR(S) FOUND IN MAT=2431, MF=33, MT=107
   SECTION 33/107 NOT IN DIRECTORY                  RECORD NUMBER  140074
```

- `psyche` Warnings:

1. Gamma width not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ISOTOPE MASS = 52. L = 0 / AT RESONANCE ENERGY 3.16383E+04 EV. THE GAMMA WIDTH 2.20555E-01 DEVIATES TOO MUCH FROM THE AVERAGE 1.29751E+00 (0): Gamma width

```
FILE  2
   SECTION 151
        ISOTOPE MASS =  52. L =  0
                 AT RESONANCE ENERGY  3.16383E+04 EV. THE GAMMA WIDTH  2.20555E-01 DEVIATES TOO MUCH FROM THE AV
```

2. Gamma width not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ISOTOPE MASS = 52. L = 0 / AT RESONANCE ENERGY 9.66934E+04 EV. THE GAMMA WIDTH 5.20000E+00 DEVIATES TOO MUCH FROM THE AVERAGE 1.29751E+00 (0): Gamma width

```
FILE  2
   SECTION 151
        ISOTOPE MASS =  52. L =  0
                 AT RESONANCE ENERGY  9.66934E+04 EV. THE GAMMA WIDTH  5.20000E+00 DEVIATES TOO MUCH FROM THE AV
```

3. Gamma width not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ISOTOPE MASS = 52. L = 0 / AT RESONANCE ENERGY 2.65142E+05 EV. THE GAMMA WIDTH 2.10001E-01 DEVIATES TOO MUCH FROM THE AVERAGE 1.29751E+00 (0): Gamma width

```
FILE  2
   SECTION 151
        ISOTOPE MASS =  52. L =  0
                 AT RESONANCE ENERGY  2.65142E+05 EV. THE GAMMA WIDTH  2.10001E-01 DEVIATES TOO MUCH FROM THE AV
```

4. Gamma width not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ISOTOPE MASS = 52. L = 0 / AT RESONANCE ENERGY 3.26186E+05 EV. THE GAMMA WIDTH 3.70014E-01 DEVIATES TOO MUCH FROM THE AVERAGE 1.29751E+00 (0): Gamma width

```
FILE  2
   SECTION 151
        ISOTOPE MASS =  52. L =  0
                 AT RESONANCE ENERGY  3.26186E+05 EV. THE GAMMA WIDTH  3.70014E-01 DEVIATES TOO MUCH FROM THE AV
```

5. Gamma width not in agreement with PSYCHE's expectations
FILE 2 / SECTION 151 / ISOTOPE MASS = 52. L = 1 / AT RESONANCE ENERGY 5.01900E+05 EV. THE GAMMA WIDTH 1.82631E+00 DEVIATES TOO MUCH FROM THE AVERAGE 5.65762E-01 (0): Gamma width

```
FILE  2
   SECTION 151
        ISOTOPE MASS =  52. L =  1
                 AT RESONANCE ENERGY  5.01900E+05 EV. THE GAMMA WIDTH  1.82631E+00 DEVIATES TOO MUCH FROM THE AV
```

6. Gamma width not in agreement with PSYCHE's expectations
   FILE 2 / SECTION 151 / ISOTOPE MASS = 52. L = 2 / AT RESONANCE ENERGY 1.15200E+05 EV. THE GAMMA WIDTH 1.30874E-01 DEVIATES TOO MUCH FROM THE AVERAGE 6.68371E-01 (0): Gamma width

```
FILE  2
   SECTION 151
        ISOTOPE MASS =  52. L =  2
                 AT RESONANCE ENERGY  1.15200E+05 EV. THE GAMMA WIDTH  1.30874E-01 DEVIATES TOO MUCH FROM THE AV
```

7. Gamma width not in agreement with PSYCHE's expectations
   FILE 2 / SECTION 151 / ISOTOPE MASS = 52. L = 2 / AT RESONANCE ENERGY 1.43365E+05 EV. THE GAMMA WIDTH 1.96940E-01 DEVIATES TOO MUCH FROM THE AVERAGE 6.68371E-01 (0): Gamma width

```
FILE  2
   SECTION 151
        ISOTOPE MASS =  52. L =  2
                 AT RESONANCE ENERGY  1.43365E+05 EV. THE GAMMA WIDTH  1.96940E-01 DEVIATES TOO MUCH FROM THE AV
```

- `fudge-4.0` Warnings:

1. Unnormalized outgoing probability distribution
   reaction label 11: n + (Cr52_c ->Cr52 + gamma) / Product: n / Distribution: / energyAngular - XYs3d: (Error # 0): Bad norm

```
WARNING: Unnormalized distribution! At energy_in = 3771853. eV (index 0), integral = 0.5
WARNING: Unnormalized distribution! At energy_in = 4.e6 eV (index 1), integral = 0.83759875
WARNING: Unnormalized distribution! At energy_in = 4.5e6 eV (index 2), integral = 0.90377475
WARNING: Unnormalized distribution! At energy_in = 5.e6 eV (index 3), integral = 0.923795875
        ... plus 18 more instances of this message
```

2. Unnormalized outgoing probability distribution
   reaction label 12: n[multiplicity:'2'] + Cr51 + gamma / Product: n / Distribution: / energyAngular - XYs3d: (Error # 0): Bad norm

```
WARNING: Unnormalized distribution! At energy_in = 12272790. eV (index 0), integral = 0.5
WARNING: Unnormalized distribution! At energy_in = 1.3e7 eV (index 1), integral = 0.886883125
WARNING: Unnormalized distribution! At energy_in = 1.45e7 eV (index 2), integral = 0.939832875
WARNING: Unnormalized distribution! At energy_in = 1.6e7 eV (index 3), integral = 0.953727625
        ... plus 3 more instances of this message
```

3. Unnormalized outgoing probability distribution
   reaction label 13: n + H1 + V51 + gamma / Product: n / Distribution: / energyAngular - XYs3d: (Error # 0): Bad norm

```
WARNING: Unnormalized distribution! At energy_in = 1.0709e7 eV (index 0), integral = 0.5
WARNING: Unnormalized distribution! At energy_in = 1.2e7 eV (index 1), integral = 0.7811456125
WARNING: Unnormalized distribution! At energy_in = 1.3e7 eV (index 2), integral = 0.918221675
WARNING: Unnormalized distribution! At energy_in = 1.45e7 eV (index 3), integral = 0.94097555
        ... plus 4 more instances of this message
```

4. Unnormalized outgoing probability distribution
   reaction label 15: n + He4 + Ti48 + gamma / Product: n / Distribution: / energyAngular - XYs3d: (Error # 0): Bad norm

```
WARNING: Unnormalized distribution! At energy_in = 9.5346e6 eV (index 0), integral = 0.5
WARNING: Unnormalized distribution! At energy_in = 1.3e7 eV (index 1), integral = 0.84353825
WARNING: Unnormalized distribution! At energy_in = 1.45e7 eV (index 2), integral = 0.8758111125
WARNING: Unnormalized distribution! At energy_in = 1.6e7 eV (index 3), integral = 0.898782195875
        ... plus 3 more instances of this message
```

5. Cross section does not match sum of linked reaction cross sections
   crossSectionSum label 1: nonelastic (Error # 0): CS Sum.

```
WARNING: Cross section does not match sum of linked reaction cross sections! Max diff: 142.97%
```

6. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
   Section 0 (total): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

7. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
   Section 0 (total): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

8. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
   Section 0 (total): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

9. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
   Section 1 (n + Cr52): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

10. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
    Section 1 (n + Cr52): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

11. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
    Section 2 (nonelastic): / Form 'eval': (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

12. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
    Section 4 (n[multiplicity:'2'] + Cr51 + gamma): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

13. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 4 (n[multiplicity:'2'] + Cr51 + gamma): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

14. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 5 (n + He4 + Ti48 + gamma): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

15. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 5 (n + He4 + Ti48 + gamma): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

16. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 5 (n + He4 + Ti48 + gamma): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

17. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 5 (n + He4 + Ti48 + gamma): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

18. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 6 (n + H1 + V51 + gamma): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

19. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 6 (n + H1 + V51 + gamma): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

20. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 6 (n + H1 + V51 + gamma): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

21. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 6 (n + H1 + V51 + gamma): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

22. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 7 (n + Cr52_e1): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

23. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 7 (n + Cr52_e1): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

24. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 7 (n + Cr52_e1): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

25. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 7 (n + Cr52_e1): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

26. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 8 (n + Cr52_e2): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

27. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 8 (n + Cr52_e2): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

28. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 8 (n + Cr52_e2): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

29. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 8 (n + Cr52_e2): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

30. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 9 (n + Cr52_e3): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

31. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 9 (n + Cr52_e3): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

32. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 9 (n + Cr52_e3): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

33. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 9 (n + Cr52_e3): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

34. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 10 (n + Cr52_e4): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

35. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 10 (n + Cr52_e4): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

36. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 10 (n + Cr52_e4): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

37. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 10 (n + Cr52_e4): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

38. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 11 (n + Cr52_e5): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

39. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 11 (n + Cr52_e5): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

40. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 11 (n + Cr52_e5): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

41. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 11 (n + Cr52_e5): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

42. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 12 (n + Cr52_e6): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

43. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 12 (n + Cr52_e6): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

44. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 12 (n + Cr52_e6): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

45. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 12 (n + Cr52_e6): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

46. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 13 (n + Cr52_e7): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

47. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 13 (n + Cr52_e7): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

48. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 13 (n + Cr52_e7): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

49. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 13 (n + Cr52_e7): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

50. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 14 (n + Cr52_e8): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

51. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 14 (n + Cr52_e8): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

52. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 14 (n + Cr52_e8): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

53. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 14 (n + Cr52_e8): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

54. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 15 (n + Cr52_e9): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

55. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 15 (n + Cr52_e9): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

56. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 15 (n + Cr52_e9): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

57. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 15 (n + Cr52_e9): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

58. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 16 (n + Cr52_e10): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

59. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 16 (n + Cr52_e10): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

60. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 16 (n + Cr52_e10): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

61. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 16 (n + Cr52_e10): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

62. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 17 (n + (Cr52_c ->Cr52 + gamma)): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

63. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 17 (n + (Cr52_c ->Cr52 + gamma)): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

64. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 17 (n + (Cr52_c ->Cr52 + gamma)): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

65. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 18 (Cr53 + gamma): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

66. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 18 (Cr53 + gamma): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

67. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 18 (Cr53 + gamma): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

68. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 19 (H1 + (V52_s ->V52 + gamma)): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

69. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 19 (H1 + (V52_s ->V52 + gamma)): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

70. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 19 (H1 + (V52_s ->V52 + gamma)): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

71. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 19 (H1 + (V52_s ->V52 + gamma)): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

72. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 20 (He4 + (Ti49_s ->Ti49 + gamma)): / Form 'eval': / Component 0 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

73. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 20 (He4 + (Ti49_s ->Ti49 + gamma)): / Form 'eval': / Component 1 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

74. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 20 (He4 + (Ti49_s ->Ti49 + gamma)): / Form 'eval': / Component 2 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

75. The ratio of smallest/largest eigenvalue is quite small, possibly leading to numerical instability in downstream codes.
Section 20 (He4 + (Ti49_s ->Ti49 + gamma)): / Form 'eval': / Component 3 (Error # 0): Condition num.

```
WARNING: Ratio of smallest/largest eigenvalue (0.000000e+00) is too small
```

- `fudge-4.0` Errors:

1. Calculated and tabulated Q values disagree.
reaction label 12: n[multiplicity:'2'] + Cr51 + gamma (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -12552593.26861572 eV vs -1.2039e7 eV!
```

2. Calculated and tabulated Q values disagree.
reaction label 13: n + H1 + V51 + gamma (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -10836808.56381989 eV vs -1.0505e7 eV!
```

3. Calculated and tabulated Q values disagree.
reaction label 14: Cr53 + gamma (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: 7644492.992362976 eV vs 7939230. eV!
```

4. Calculated and tabulated Q values disagree.
reaction label 15: n + He4 + Ti48 + gamma (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -10718237.53752899 eV vs -9.353e6 eV!
```

5. Calculated and tabulated Q values disagree.
reaction label 16: H1 + (V52_s ->V52 + gamma) (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -3696111.794250488 eV vs -3.194e6 eV!
```

6. Calculated and tabulated Q values disagree.
reaction label 17: He4 + (Ti49_s ->Ti49 + gamma) (Error # 0): Q mismatch

```
WARNING: Calculated and tabulated Q-values disagree: -2168192.721343994 eV vs -1.21e6 eV!
```

7. Multiplicity does not match sum of linked product multiplicities!
multiplicitySum label 4: Cr53 + gamma total gamma multiplicity (Error # 0): summedMultiplicityMismatch

```
WARNING: Multiplicity does not match sum of linked product multiplicities! Max diff: 47.58%
```

- `njoy2012` Warnings:

1. Message comes from several resonance types that do not support the calculation of angular distributions. Some of them can be used if `Want_SAMRL_RM or Want_SAMRML_BW are true.`
reconr...reconstruct pointwise cross sections in pendf format (0): RECONR/calculation of angular distribution not installed (0)

```
---message from rdf2bw---calculation of angular distribution not installed.
  samm max legendre order:  0
```

2. Evaluation has no unresolved resonance parameters given
   unresr...calculation of unresolved resonance cross sections (0): No URR

```
---message from unresr---mat 2431 has no unresolved parameters
                        copy as is to nout
```

3. Evaluation has no unresolved resonance parameters given
   purr...probabalistic unresolved calculation (0): No URR

```
---message from purr---mat 2431 has no unresolved parameters
                        copy as is to nout
```

4. There is bad Kalbach parameter (r(E) or otherwise)
   check...ace consistency check (0): ACER/check energy distributions (0)

```
check energy distributions
  consis: ep.gt.epmax 9.622632E-12 with q.lt.0 for (n,x) at e  1.000000E-11 -> 1.000000E-11
```

5. There is bad Kalbach parameter (r(E) or otherwise)
   check...ace consistency check (1): ACER/check energy distributions (0)

```
check energy distributions
  consis:   awr.lt.180---this is probably an error.
```

6. There is bad Kalbach parameter (r(E) or otherwise)
   check...ace consistency check (2): ACER/check energy distributions (0)

```
check energy distributions
  consis: shifting eprimes greater than epmax and renorming the distribution
```

7. There is bad Kalbach parameter (r(E) or otherwise)
   check...ace consistency check (3): ACER/check energy distributions (0)

```
check energy distributions
  consis: ep.gt.epmax 1.924527E+01 with q.lt.0 for (n,x) at e  2.000001E+01 -> 1.937377E+01
```

8. There is bad Kalbach parameter (r(E) or otherwise)
   check...ace consistency check (4): ACER/check energy distributions (0)

```
check energy distributions
  consis:   awr.lt.180---this is probably an error.
```

9. There is bad Kalbach parameter (r(E) or otherwise)
   check...ace consistency check (5): ACER/check energy distributions (0)

```
check energy distributions
  consis: shifting eprimes greater than epmax and renorming the distribution
```

10. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (6): ACER/check energy distributions (0)

```
check energy distributions
  consis: ep.gt.epmax 2.116978E+01 with q.lt.0 for (n,x) at e  2.200000E+01 -> 2.133567E+01
```

11. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (7): ACER/check energy distributions (0)

```
check energy distributions
  consis:   awr.lt.180---this is probably an error.
```

12. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (8): ACER/check energy distributions (0)

```
check energy distributions
  consis: shifting eprimes greater than epmax and renorming the distribution
```

13. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (9): ACER/check energy distributions (0)

```
check energy distributions
  consis: ep.gt.epmax 2.309431E+01 with q.lt.0 for (n,x) at e  2.400000E+01 -> 2.329757E+01
```

14. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (10): ACER/check energy distributions (0)

```
check energy distributions
  consis:   awr.lt.180---this is probably an error.
```

15. There is bad Kalbach parameter (r(E) or otherwise)
    check...ace consistency check (11): ACER/check energy distributions (0)

```
check energy distributions
  consis: shifting eprimes greater than epmax and renorming the distribution
```

16. Only partial urr covariance data was given.
    errorr...produce cross section covariances (0): ERRORR/resprx (5)

```
---message from resprx---mf2 nls=3, but mf32 nls=0
                         continue with partial urr covariance data
```

17. No scattering radius uncertainty given.
    errorr...produce cross section covariances (1): ERRORR/rpxlc12 (0)

```
---message from rpxlc12---no scattering radius uncertainty
```

18. Generic warning message
    errorr...produce cross section covariances (2): Warning

```
---message from rpxlc12---resonance parameter loop done               190.5s
```

19. Generic warning message
    errorr...produce cross section covariances (3): Warning

```
---message from rpxlc12---sensitivity calculation continues           826.0s
```

20. Generic warning message
    errorr...produce cross section covariances (4): Warning

```
---message from rpxlc12---sensitivity calculation completed          1817.0s
```

- `acelst` Warnings:

  1. The incident energy grid is not monotonic for this angular distribution
     0: Bad Ang. Dist.

```
ACELST WARNING - Processing Ang.Dist.MT         2
                 E-grid non-monotonic   2.000000000E+01 2.000000000E+01
```

- `xsectplotter` Errors:

  1. Exception AttributeError was thrown
     /usr/local/lib/python2.7/site-packages/matplotlib-1.5.3-py2.7-linux-x86_64.egg/matplotlib/font_manager.py:2
     UserWarning: Matplotlib is building the font cache using fc-list. This may take a moment. (Error # 2): AttributeError

```
AttributeError: 'NoneType' object has no attribute 'rowData'
```